

WHAT IS CLAIMED IS:

1. A method of manufacturing a space transformer comprising:

placing an electrically conductive material in an inner region located in a silicon medium, the silicon medium defining both a first side and a second side at an outer region thereof; and

providing electrical contact regions between the electrically conductive material in the inner region and both the first side and the second side of the silicon medium at the outer region to provide double-sided electrical contacts for the space transformer.

2. The method according to claim 1, wherein providing electrical contact regions includes etching the silicon medium to expose electrical contact zones of the electrically conductive material.

3. A method of manufacturing a space transformer, comprising:

depositing a layer of electrically conductive material on a first silicon layer;

providing a predetermined contact pattern on the first silicon layer from the layer of electrically conductive material;

depositing a second silicon layer on the contact pattern such that the contact pattern is placed in an inner region located between the first silicon layer and the second silicon

layer; and

providing electrical contact regions between an outer region located outside of the inner region and the layer of electrically conductive material placed in the inner region to provide double-sided electrical contacts for the space transformer.

4. The method according to claim 3, wherein providing electrical contact regions comprises creating at least one
via in the first silicon layer prior to depositing the layer of electrically conductive material.
5. The method according to claim 4, wherein depositing the layer of electrically conductive material includes depositing some of the electrically conductive material in the at least one via.
6. The method according to claim 3, wherein providing electrical contact regions comprises etching the first silicon layer to expose electrical contact zones of the layer of electrically conductive material.
7. The method according to claim 3, further comprising depositing an adhesion promoter on the first silicon layer before depositing the layer of electrically conductive material.

- 17

10. A space transformer comprising:
a silicon medium; and
a predetermined contact pattern comprising electrically conductive material disposed in an inner region of the substrate and defining electrical contact zones located to provide double-sided electrical contacts for the space transformer.
11. The space transformer according to claim 10, wherein the silicon medium comprises a first silicon layer and a second silicon layer, the contact pattern being disposed between the first silicon layer and the second silicon layer.
12. The space transformer according to claim 11, wherein the second silicon layer defines at least one via therein, at least some of the electrically conductive material being located in the at least one via, the at least some of the electrically conductive material further defining the thermal contact zones.
13. The space transformer according to claim 11, further comprising an adhesion promoter disposed between the electrically conductive material and the first silicon layer.
14. A space transformer comprising:
a first silicon layer defining a plurality of vias therein;

a predetermined contact pattern comprising copper on the first silicon layer, at least some of the copper being disposed in the plurality of vias for defining thermal contact zones in the plurality of vias to provide double-sided electrical contacts for the space transformer; and

a second silicon layer disposed on the contact pattern, the contact pattern being disposed in an inner region located between the first silicon layer and the second silicon layer.

15. The space transformer according to claim 14, further comprising a layer of adhesion promoter disposed between the electrically conductive material and the first silicon layer.

16. A space transformer comprising:

a first silicon layer;

a second silicon layer mounted to the first silicon layer; and

means disposed in an inner region located between the first silicon layer and the second silicon layer for providing double-sided electrical contacts for the space transformer.

17. The space transformer according to claim 16, wherein the means for providing comprises a contact pattern comprising electrically conductive material.